Docket No. QCPA990347   **Serial No. 09/741,631**

REMARKS/ARGUMENTS

Claims 1, 3-8, 10-15, 17-21, and 23-24 are pending in the application and are presented for further reconsideration and allowance. All pending claims have been rejected as allegedly unpatentable over U.S. Patent No. 5,752,218 to Harrison et al. (hereinafter Harrison) in view of U.S. Patent No. 5,493,588 to Lennen (hereinafter Lennen). Applicant respectfully traverses the rejections.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be reasonable expectation of success. Finally, the prior art reference, or references when combined, must teach or suggest all of the claim limitations. Applicant contends the combination of Harrison with Lennen fails to teach or suggest every claim limitation.

Claim 1 features "transmitting a time difference between the code phases of at least one pair among the plurality of received signals." This feature is not taught nor suggested by Harrison nor Lennen, whether alone or in combination.

The Examiner concedes that Harrison fails to teach transmitting a time difference between the code phases of at least one pair among the plurality of received signals. *See, Office Action*, at page 3. However, the Examiner contends that Lennen describes a time difference between code phases of at least one pair among the plurality of received signals. Applicant respectfully disagrees with this interpretation of Lennen.

Lennen describes methods for compensating for multipath in a received code phase signal. *See generally, Lennen*, Abstract and Col. 3, line 65, through Col. 4, line 3. Lennen recognizes that the effects of multipath signals contribute to errors in position location. *Id.* at Col. 1, ll. 36-38. Lennen describes techniques for eliminating or suppressing the multipath by estimating a shift in phase of a measured received multipath signal relative to an idealized signal. *Id.*, at Col. 4, ll. 6-14.

Lennen describes estimating the time difference between a received and measured multipath signal and an idealized version of the signal. *Id.*, at Col. 4, ll. 24-28. Note that the idealized signal is *not* received by the receiver, but rather, the characteristics of

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an idealized signal are used in estimating the time difference of the measured multipath signal relative to the idealized signal.

If an idealized signal is received, there is no need to analyze the multipath signal, and position location in absence of multipath errors can directly be determined based on the idealized signal. Further, if the idealized signal is received, there is no need to estimate the time difference because the time difference can be determined directly by comparing the phases of the two received signals.

Lennen describes sampling the same received signal (the measured multipath signal) at time periods before (early) and after (late) a punctual code shift. The time difference between the measured received code phase signal and the idealized signal can be determined based on a predetermined function relating the ratios of the early, punctual and late correlation values to a time difference. *See, Id.,* at Col. 4, ll. 32-66.

Thus, Lennen describes a method of determining an offset of a multipath signal relative to an idealized signal by measuring the correlation values of a received multipath signal at early, punctual, and late code offsets, and using a predetermined function relating the measured signal parameters to an estimate of a time offset.

Lennen fails to describe a plurality of received signals, and Lennen fails to describe determining a *time difference between code phases of at least one pair among a plurality of received signals.* Instead, the time difference estimated in Lennen refers to a time difference between a received multipath signal and an idealized version of the signal. The idealized signal is not a received signal.

Furthermore, there is no indication that the time estimate determined in Lennen is applicable for any other device, or that a transmitted message having the time estimate can be useful at some remote location. A multipath signal is typically highly location specific, and changes as the location or orientation of the receiving device changes. The applicability of a time estimate of a multipath signal at one location may have no relevance at a remote location. The Examiner does not provide any discussion regarding how a time estimate of a multipath signal at one location has any relevance at a remote destination, such that one would be motivated to transmit the time estimate.

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Therefore, claim 1 is believed to be allowable at least for the reasons that the cited references, whether alone or in combination, teach or suggest a *time difference between the code phases of at least one pair among a plurality of received signals*. The Examiner concedes that Harrison fails to teach the claimed feature, and the above discussion reveals that Lennen also fails to teach or suggest the claimed feature. Applicant respectfully requests reconsideration and allowance of claim 1.

Claims 8, 15, 21, and 24 include features similar to those discussed above in relation to claim 1. In particular, claim 8 includes the feature "determining a code phase of the second received signal is based at least in part on a time difference between the code phase of the first received signal and the code phase of the second received signal." Claim 15 includes the feature "a transmitter configured to transmit a time difference between the code phases of at least one pair among the plurality of received signals." Claim 21 includes the feature "a GPS receiver configured to receive a first and second signal and to receive a signal comprising a time difference between the code phase of the first received signal and the code phase of the second received signal." Claim 24 includes the feature "a field receiver configured to receive signals from a plurality of space vehicles and to receive the information... wherein the information pertains at least to a time difference between the reference code phases for the first one and the second one of the signals." Therefore, claims 8, 15, 21, and 24 are believed to be allowable at least for the reasons discussed above in relation to claim 1. The cited references, whether alone or in combination, fail to teach or suggest every claimed feature. Applicant respectfully requests reconsideration and allowance of claims 8, 15, 21, and 24.

Claims 3-7, 10-14, 17-20, and 23 depend, either directly or indirectly, from one of claims 1, 8, 15, or 21 and are believed to be allowable at least for the reason that they depend from an allowable base claim. Applicant respectfully requests reconsideration and allowance of claims 3-7, 10-14, 17-20, and 23.

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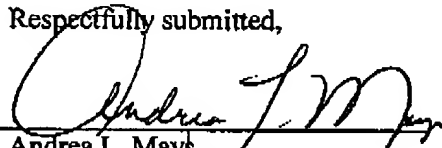Docket No. QCPA990347   Serial No. 09/741,631

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-651-8546.

Respectfully submitted,

Dated: July 24, 2006   By: _____

Andrea L. Mays
Attorney for Applicant
Registration No. 43,721

QUALCOMM Incorporated
5775 Morehouse Drive
San Diego, California 92121-2779
Telephone: (858) 651-8546
Facsimile: (858) 658-2502

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